Course Descriptions NonDegree 2022-2023

Course Title	Data Analysis Skills
Course Code	EBS4001
ECTS Credits	4,0
Assessment	Pass / Fail

Period

Period	Start	End	Mon	Tue	Wed	Thu	Fri
3	16-1-2023	27-1-2023	C				

Level	Advanced
Coordinator	Bram Foubert For more information:b.foubert@maastrichtuniversity.nl
Language of instruction	English
Goals	In terms of the so-called Assurance of Learning standards, this course pursues the following learning objectives: * Knowledge acquisition: students will acquire knowledge of statistical methods and econometric models that are relevant when dealing with limited or nonmetric dependent variables. * Knowledge application and judgement: in four assignments, students will learn to use and extend their knowledge on the basis of realistic cases and datasets. * Research skills: the acquired knowledge involves (the application of) econometric techniques and thus directly contributes to students' research skills. * Communication and professional attitude: to realize the above learning objectives, interaction, feedback, and teamwork will be key. As a result, students will also sharpen their communication skills and improve their professional attitude.
Description	PLEASE NOTE THAT THE INFORMATION ABOUT THE TEACHING AND ASSESSMENT METHOD(S) USED IN THIS COURSE IS WITH RESERVATION. A RE-EMERGENCE OF THE CORONAVIRUS AND NEW COUNTERMEASURES BY THE DUTCH GOVERNMENT MIGHT FORCE COORDINATORS TO CHANGE THE TEACHING AND ASSESSMENT METHODS USED. THE MOST UP-TO-DATE INFORMATION ABOUT THE TEACHING/ASSESSMENT METHOD(S) WILL BE AVAILABLE IN THE COURSE SYLLABUS. Dependent variables rarely cover the full line of real numbers. Although the assumption of an unconstrained continuous dependent variable may be relatively harmless in quite some cases, many situations require a different approach. For example, when a consumer purchases packaged goods, he or she only buys an integer, nonnegative number of units. In surveys, Likert or semantic scales not only discretize but also limit a person's true response, in that they impose minimum and maximum values. Finally, 0/1 phenomena by definition demand techniques that recognize the binary, nominal nature of the data. Ignoring the true characteristics of your data may lead to inefficient and inconsistent estimates and may generate nonsensical predictions. This skills training therefore introduces students to: * different types of limited and/or nonmetric dependent variables and the inherent dangers of ignoring the data's real nature; * models that take into account the peculiarities of the data; and * a particularly popular estimation technique that is flexible enough to estimate all studied models, namely Maximum Likelihood Estimation (MLE). On the basis of structured assignments with realistic data, we will conduct econometric analyses in the open-source programming environment R.
Literature	Selected chapters from textbooks, course slides, course book
Prerequisites	* Experience with a statistical package like SPSS * First experience with R (if not, preparatory assignment will be provided) * Knowledge of multiple regression analysis and Ordinary Least Squares * Knowledge of elementary and matrix algebra (if not, preparatory assignment will be provided) * Knowledge of basic calculus
Teaching methods	PBL / Presentation / Lecture / Assignment
Assessment methods	Attendance / Participation
Evaluation in previous academic year	For the complete evaluation of this course please click http://iwio-sbe.maastrichtuniversity.nl/rapporten.asp?referrer=codeUM

This course belongs to the following programme / specialisation

Master Business Research - No specialisation	Year 1 Compulsory Skill(s)
SBE Exchange Master	Master Exchange Skills
SBE Non Degree Courses	Master Skills